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ABSTRACT

This study concerned pre-school programming in public libraries and the impact of such programs on (1) the circulation of children's books and (2) the number of children visiting the library. The hypothesis was that effective programming for pre-schoolers increases the number of children coming to the library, which, in turn, increases circulation. Data from the main library and a branch library for a county system in Las Vegas, Nevada, were compiled over an eight month period, and a positive correlation was found between the two independent variables, increase in attendance and increase in circulation of children's books. Increasing interest in pre-school programs, as evidenced by the growing number of children enrolled, was also studied, and responses to a survey questionnaire showed that parents of participating pre-schoolers were also circulating a greater number of children's and adults' materials. Information gathered during the study confirmed that effective programs enhanced circulation and use of the library. (Author/JAB)

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SAN JOSE STATE UNIVERSITY

EFFECTS OF PRE-SCHOOL PROGRAMMING UPON CIRCULATION OF
CHILDREN'S BOOKS IN THE PUBLIC LIBRARY

A Research Paper

Presented to

The Faculty of the Department of Librarianship

San Jose State University

"PERMISSION TO REPRODUCE THIS
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TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC) AND
USERS OF THE ERIC SYSTEM."

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts

by

Nancy R. Cummings

August, 1976

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Chapter 1

INTRODUCTION

Statement of the Problem

This research paper concerns itself with pre-school programming in the public library and results, if any, it produces. The study will examine the impact this programming has upon circulation in the category of Easy children's books. It will also examine the impact it has, if any, upon the number of pre-school children who visit the library.

It is also a prime attempt to observe an area normally unresearched in the library profession. For this reason, a number of inter-disciplinary research methods were employed not only to test the hypothesis, but also to examine the statistical methods as to their effectiveness in researching the public library problems.

Need for the Study

Service to children is one of the biggest success stories in public library history. As Leigh states

Altogether, public library service to children and young people is an impressive achievement . . . children's rooms and children's librarians have been the classic success story of the public library.¹

If, historically, children's programs are a success, why the need for research?

Libraries are not only in competition with the media and other agencies for the attention of children, but are also in competition with other agencies for money. Often in local government, the public library has a low priority when it comes to budgets.

All too often, library administrators will cut into the budget for services to young people because many feel that children will always come to the library. This is far from accurate. If young people do not find what they need at the public library, they will go elsewhere. Then, who will grow up to use the public libraries in the future?

Can public library service to children survive on past reputation alone? With budgetary cutbacks the recent rule and not the exception throughout the public library realm, how safe is library service to children? In the past, it has not been necessary to defend or justify the existence of children's services; but perhaps this will change in the future.

Ruth Gregory succinctly states that

. . . at the very minimum, children's librarians . . . must learn how to anticipate the type of information that is needed at administrative or board levels for decision-making related to budget allocations for children's services.²

Anne Billeter notes it can "no longer be taken for

granted that libraries, books and story hours are worthy of community, state or national support."³ Funding agencies can and must be convinced of the essential nature of children's services via research and evaluation. In a recent article on library services to young people, Margaret Kimmel⁴ stresses the importance of serious examination in this age of accountability and cost effectiveness.

Burke's⁵ stunning report discusses the proposal in New York state which recommends that all available library services to children be placed in the elementary school media centers! The controversy that has raged since then has stirred Ann Izard, one of the foremost children's specialists in the field to state that "children's librarians are being declared a species extinct in their own time."⁶

The American Library Association's Task Force on Children's Services has stated that in order "to provide the highest quality service for each child the library should make available programs and activities for individuals and groups."⁷

A recent awareness concerning the lack of research in the area of public library programming for children is coming to light. In 1974 Marion Gallivan prepared an in-depth bibliography of children's services in libraries. She discusses the lack of research in children's services and stresses the lack thereof in public libraries. She

places heavy emphasis upon the fact that far more research has been done in schools than in public libraries.⁸

Once the children's librarian was free to devote all energies to getting children and books together to build strong personal relationships with them, but with the current economic reversals and cutbacks in many phases of American life, children's services personnel must begin to deal with the realities and join in the fight for survival. The necessity for evaluation and statistical research is evident, so, the rationale for this study.

Limitations of the Study

To limit the scope of the survey and to define the exact framework within which the research was conducted, the following preliminary notes must be taken into consideration. First, the Clark County Library District CLSI LIBS 100 Automated Circulation Control System had only been in service a few months when data collection for this study was begun. Those first few months resulted in some installation problems and down-time which created irregularities in the posting and collection of data. This limited the data gathering to an eight-month cycle when preferably a full year's cycle would have been desirable.

Another major limitation discovered during the

literature search was the lack of precedent for this kind of research. Not only are computers new in a traditional library environment, but to date have not been used often to get at data outside of the circulation base program. This study has utilized the computer to glean the raw circulation data necessary to the study. The study has also used a computer to implement the methodology to interpret some of the data.

Another factor involved in the limitations of this study was the dearth of research in the area of programming for children in the public libraries. The literature survey which follows will bear this out. Also to be considered are the idiosyncratic design problems in a preparatory study of this nature. Taking them into consideration will hopefully act to tighten the rationale and focus of this study.

It should also be noted that other correlation programs were run on various variables at the two libraries researched, but the present paper only explores two of these variables.

With these limitations in mind, the most effective approach to take was to proceed with caution in this shadowy, under-researched area and to limit this paper in scope to a preliminary pilot investigation.

Hypothesis

This research proposes the following hypothesis:
Effective programming for pre-schoolers in the public library increases the number of children coming to the library which, in turn, increases the circulation in the category of Easy children's books.

FOOTNOTES

¹Robert D. Leigh, The Public Library in the United States (New York: Columbia University Press, 1950), p. 700.

²Ruth Gregory, "The Crisis of Success in Public Library Work with Children," Illinois Libraries, LVII (January, 1975), 35

³Anne Billeter, "Research and Evaluation in the Administration of Children's Work in the Public Library," Illinois Libraries, LVII (November, 1975), 10.

⁴Margaret M. Kimmel, "Library Programs Plus Storehouse," Top of the News, XXXII (November, 1975), 51-8.

⁵J. Gordon Burke, and Gerald Shields, Children's Library Service: School or Public? (Metuchen, N.J.: Scarecrow, 1974), p. 9.

⁶Ann Izard, "Children's Librarians in 1970," American Libraries (October, 1971), 973.

⁷American Library Association, A.L.A. Task Force, "Community Library Services. Working Papers on Goals and Guidelines," Library Journal, XCVIII (September 15, 1973), 27.

⁸Marion Gallivan, "Research on Children's Services in Libraries," Top of the News, XXX (April, 1974), 277.

Chapter 2

PLAN FOR THE STUDY

Literature Survey

Research and in-depth statistical data involving programming for children in the public library is scarce and practically non-existent. While comments are often made, such as, "Of course programming affects the number of children and the number of books they check out. Isn't that obvious?" precise statistical data to back these claims are difficult to find.

In Elizabeth Gross's extensive study, "Children's Services in Public Libraries,"¹ one of the pervading themes was the need for more programs for children, more trained staff members, and more money. The study examined the means by which work with children is being conducted in the United States. The study is not evaluative however, and no statistical information is given on the effects of programming upon circulation.

Examination of reading and reading related programs in libraries shows a positive relationship between participants and the programs. A study undertaken by Barass and Reitzel² emphasizes this relationship. Case studies of exemplary programs in 30 public libraries were

conducted. The programs selected were felt to have an impact upon a participant's behavior, interest, knowledge, or skills. The effectiveness of these programs was measured through the use of telephone surveys. Typical comments were, "Kids checked out more books," and "they developed a greater interest in the library and in books." In the pre-school programs, the mothers reported that they also checked out more books for themselves when they took their children to library story hours.

Another extensive user survey by Wilder³ involved a questionnaire used in five different libraries. It examined the use of the attitudes of children and young adults toward libraries. The survey showed that 23 percent of those polled used the public library for school work, while 21 percent came for entertainment. Perhaps this is an indication of the importance of a diversity in programming and activities for young people in the library.

The Children's Library Section of the Illinois Library Association⁴ conducted a survey of public library service to children in Illinois. The intent of the survey was to obtain a profile of library service to children which covered both quantitative and qualitative aspects. The survey was sent out to 613 children's librarians in the state. When queried about their short-term goals, the highest percentage of librarians indicated a need to present more and better programs.

In the "Gallup Survey of American Library Users,"⁵ very little information applies to the library user under the age of 17 years. However, under suggested improvements in library services, greater provisions for children were mentioned. Also, 54 percent of the adults with children from 5 to 12 years old reported their children had used the library at least once during the past year. Although this survey does not include younger children, it is an interesting study and points up the need for greater research in children's services. So now, the Gallup adult survey is done. One wonders when the same thing will be done for young people!

In another survey conducted by the Children's Section of the Connecticut Library Association,⁶ a careful examination of staffing materials and service was conducted. Once again, the survey documented a need for more staff and improved programming for children.

A most comprehensive study conducted by Lowell Martin⁷ which was done in Baltimore was geared to survey the reading patterns and potential of residents with limited cultural and educational backgrounds. The evidence relating to children repeatedly showed that the most promising opportunity for a reading program aimed at the poor and disadvantaged is with the younger child. The importance of a pre-school program in the library was stressed. This led to an in-depth three-year plan for

service to these children in depressed areas. One dramatic result of the study showed that "a child in a reading home is at least three times as likely to be a public library user as a child in a home where neither parent reads books."⁸

Leonard Grundt's⁹ research was concerned with determining most efficient patterns for providing adequate public library service to all residents in Boston. He hypothesized that public service outlets were not easily accessible to all residents of Boston. He found that children had to travel more than a reasonable distance to reach a stationary outlet in some sections of the city. He also found that the branches were used more by children than adults, while in the main library, the reverse was true. Methods used in the study were checklists, interviews, and statistical techniques.

The New York Library Association¹⁰ queried all the public library systems in the state of New York to examine what kinds of programs were being offered to children, as well as the extent of programming. One finding was that programming for children was highly successful in the systems offering it.

In an extensive three-part project in North Carolina,¹¹ an investigation was undertaken to study public library service to pre-schoolers. This survey pointed out the need for more programming and for more highly qualified

librarians to work with pre-schoolers.

A number of studies have been conducted regarding whether or not specific programs actually have any value, educational or otherwise. Most of this research, however, has been done in school libraries and not in public libraries.

Beverly Sirota¹² hypothesized that the addition of a planned literature program of daily oral reading by the teacher would result in an increase in both the quality and quantity of voluntary reading in a selected group of children. This was found to be the case with the group of 275 children who participated in her study.

An interesting survey with similar emphasis was undertaken by Donald Pfau.¹³ He claimed that "young children encounter too many reading programs which are devoid of intrinsically rewarding reading experiences."¹⁴ The children in this study participated in a two-year program which included planned recreational programs. While no difference in reading comprehension, word analysis, and spelling ability was noted, vocabulary was significantly improved. Also, the experimental group borrowed significantly more books from the library.

The Milwaukee Public Schools ran a special program which provided additional staff and materials to schools in areas of high concentration of pupils from low-income families in an attempt to overcome their educational

difficulties. Circulation and attendance data were kept, and students completed questionnaires. Although pupil response indicated a positive attitude toward the program, lack of reliable data makes the information of limited value.¹⁵

In an experiment described by Cook,¹⁶ launched in 1940 and continued with variations for 12 years, it was hoped that materials and selected techniques would improve the retention of fundamentals during the summer vacation. One plan involved the public library getting children to participate in summer reading activities. The study showed that whenever children engaged in some systematic plan for summer reading, significant improvements were indicated. The plan wherein children participated in group library projects and had an opportunity to share their reading experiences with others yielded the best scores of any plan devised for this.¹⁷

Gertrude Bailey's¹⁸ research involved a group of disadvantaged children who were given selected enrichment experiences such as storytelling and book-related activities to determine whether this would improve their psycholinguistic abilities. The results showed a significant increase in total language ability of the experimental group when compared with the control groups.

A summer library program was evaluated by Naomi Erdmann.¹⁹ Selected school libraries were staffed by

mothers paid by the local school board. Children in these areas did not have free access to a public library. The test results were disappointing and did not yield statistical support for a summer library program. However, it did point out the necessity for trained professionals, and it raised the question--What can teachers and librarians do to promote and provide the tinder to keep alive interest in reading while not in school? Although the results were disappointing, one must speculate whether the use of someone trained to work with children would have made the outcome more successful.

An interesting study by Elsie Ziegler²⁰ involved the study of specific programming techniques in public libraries. The study, conducted over a period of two years, examined the degree of effectiveness of a creative dramatics and storytelling session to see if children would develop a greater interest in reading and also increase their reading abilities. While the groups participating in the creative dramatics activities did not seem to increase interest in literature, the children who participated in the storytelling sessions made significant gains.

Perhaps one of the most meaningful studies done on the effects of programming was conducted by Herbert Goldhor.²¹ It dealt with the value of a summer reading program. Goldhor succinctly states that

. . . since research in this area is almost entirely lacking, librarians do not know for certain what effect reading clubs have on children, despite the expenditure of considerable time and effort in producing these programs.²²

Goldhor's hypothesis stated that children in public library reading clubs will receive significantly higher scores on reading skills tests in the fall than children who do not join. In an experiment with fourth graders from 35 different elementary schools, children participated in a program for eight weeks. Results showed that club membership was seen to be only one factor in the retention and improvement of reading skills.

As the above research indicates, studies examining the circulation of books in relation to children are few. Robert Karlin²³ investigated the question of whether or not circulation figures really are an index of book reading. The purpose was to determine the relationship of children's library-book borrowing to actual library reading. After interviewing children in both school and public libraries, library circulation figures were determined to be at best a rough measure of library-book reading, and circulation figures were not considered an accurate measure.

In a study of factors which influence circulation in public libraries, Parker and Paisley²⁴ found that juvenile circulation is not predicted as well as adult circulation by any community characteristics. However, Margaret Peil's study of "Library Use by Low Income

Families,"²⁵ reported that library use of first graders was strongly related to their mothers' use, as well as the number of books each child owned.

Computer based studies related to children's books and children's programming appear to be scarce, if non-existent. However, some computer based user and needs surveys have been conducted, and some seem appropriate to mention here since they may have implications for further research in the area of the young person as a library user.

Amongst the more formidable studies would be that of John Lubans.²⁶ Computer based circulation data were used to analyze user and non-user types. This information was predicted to be valuable in areas such as collection development and budget allocations, as well as surveying the library clientele. In essence, the study was designed to supply information for decision-making in libraries.

An interesting quote from Luban's research which strengthens the raison d'être for this study is as follows: "Little attention is paid to the use of this information as an aid for administrative or service decision making."²⁷

Another interesting study by Cammack²⁸ involved a university library after the installation of its IBM 357 system. A test run of analytical by-products of the circulation control system was conducted. Such information

as which portions of the library collection are most or least used and whether upper classmen or lower classmen use the library more can be studied via use of the information gleaned from the circulation data base.

The important outcome of this study is that someone finally stressed the importance and value of computerized circulation data and their future effect upon efficient library administration.

An excellent, in-depth bibliography on children's services was prepared by Marion Gallivan.²⁹ In her article, she stated:

The scarcity of research on public library service to children is very unfortunate. In a period of economic cutbacks and taxpayers' revolts, a crying need exists to identify, examine, and evaluate the public library's role in providing library service to children.³⁰

Ms. Gallivan has done an extensive search for studies done on children and libraries. The annotated bibliography is evidence of the astonishing lack of research on children in the public libraries in America. She also points out the "severity of the lack of coordinated research on children's services in libraries."³¹ She feels most strongly that research is definitely required in all phases of library work with children, be it school or public.

Data Collection Methods,
Background Information
and Setting

The research was conducted at the Clark County Library District in Las Vegas, Nevada. Two participating agencies were selected. They include the Flamingo Library which is the main headquarters library for the county system and the Decatur Branch Library, a branch of the county system.

The Flamingo Headquarters library not only services the 65,000 population within its service radius, but also serves as the regional resource center for four counties. The main library, located in the southwest section of the city, is set in a commercially zoned area, with much of the land around it still to be developed. The University of Nevada, Las Vegas is two blocks from the library. One elementary school is within walking distance. Several large apartment complexes exist within walking distance and several others are under construction. The library is not a walk-in one, since it is not close to single-family residences. Those patrons who visit the library usually do so by using some mode of transportation.

The Decatur branch is an urban neighborhood branch library in a concentrated population area which serves 60,000 people and which is located in the northwest section of Las Vegas. It is in the midst of one of the largest shopping centers in that part of town. Many patrons who

visit the library utilize all the other services which are available in the center. The Decatur branch is a walk-in library. Large numbers of single-family residences exist around it. Children can walk or bicycle to the library. It offers the standard materials, circulation, and reference services of a large branch, with heavy emphasis upon children's programming.

This study is basically concerned with the pre-school child. These children are between the ages of three and five years and are not yet attending kindergarten in either a public or private school. The category of books chosen to be used in the study were the books geared for this age group: picture books, alphabet books, number books, story books, and early concept books which are catalogued as Easy books. This special Easy-book collection is kept in a separate area in the children's section of the libraries. These books have the designation "E" on the spine of each book.

The pre-school group was selected as the focus for this research because of the highly organized and tightly controlled implementation of the programs for the pre-schoolers at both the libraries.

A most important aspect of this research was the gathering of the circulation data, done over an eight-month period. These data were compiled with the CLSI LIBS 100 Circulation Computer Control System which has been in

use at the Clark County Library District for over a year.

The CLSI LIBS 100 is a highly sophisticated, automated system designed expressly for libraries. It automates the recording, processing, and retrieval of data which are generated by daily circulation activities in the library.

Circulation figures have been much maligned in the past; they have been mishandled, misused, manipulated, and distorted. These figures have become suspicious characters in the minds of some, and not always considered a reliable measurement for predicting use patterns. The following comment from the "American Library Association Library Statistics" describes circulation thusly:

It is also probable that these figures have been subjected to abuse, since many laymen look upon them as a principal indication of the volume of business; at the same time, trends in circulation are important. If a standard method of counting can be agreed upon, circulation figures undoubtedly will help describe in part the library's activity and clientele, at least relatively.³²

Access and use of the CLSI LIBS 100 Circulation Computer Control System has allowed for the collection of accurate and reliable statistics which have greater credibility than the manual methods of recording circulation figures. It offers total automation of day-to-day circulation procedures. As soon as the information is stored in the LIBS 100 Computer, it is instantly available to library personnel.

Each item which is checked out from the library is identified with a bar and coded label. This item is assigned a category which classifies it as a certain type of material, e.g., adult fiction is assigned the category "number 1" (see Appendix A). These statistics are accurate and allow for a minimum amount of human error. Of course, the occasion does arise where an item has been assigned an incorrect category. As time goes on, however, these errors are noticed and corrected by library employees.

Of course, many of the old suspicions crop up when automated library services are mentioned to some, but the fact remains, although the computer probably will not "replace the traditional library . . . it will nevertheless affect and facilitate the library's function in many important ways."³³

Paul Wasserman aptly describes some of the specific advantages of mechanization as "greater efficiency, reduced error, rapidity of processing, and less reliance upon human judgment."³⁴ Richard Palmer also argues the case for computer circulation systems.

Since computer systems usually provide increased accuracy and speed in processing, they are likely to improve the library's image and build good public relations . . . computerized circulation operations should help to hold the line against escalating costs and at the same time increase system efficiency.³⁵

That librarians will have to live with the technology of the computer age is expressed by Shera:

The machine, if librarians will but prepare for its coming, will raise librarianship to new levels, mechanization, by providing the librarian with powerful new tools can open endless frontiers of new service.³⁶

This research was undertaken because of "THE MACHINE," for it provided a greater degree of credibility for the circulation statistics used than would have been possible by any other means.

Specific Methods of Data Collection

Several specific research methods were used to test the hypothesis. First, raw data were gleaned from the CLSI LIBS 100 Circulation Data Control System (see Appendix A). Other data were taken from monthly service reports as they pertained to children's programs (see Appendix C).

The data gathered from these sources were treated and applied to a computer program designed to apply the Spearman Rank Order Correlation Co-efficient to ascertain the degree, if any, of correlation between the number of pre-school programs held each month with the number of Easy books circulated each month.

Another aspect to the experimental design was a survey taken from a sample of pre-schooler's parents who brought their children to pre-school programs held at the Flamingo Headquarters library. This survey was designed to provide background and in-depth information on the people in the major study, to aid in the assessment of the

major correlational study, and to assess the impact of the pre-school program.

Due to the accessibility of the computer statistics, a daily plotting of the circulation of Easy books was gathered over a special four-week period. Thus, information provided a base of assessment as to the circulation variable viewed separately. These data were then projected into graphic form and are presented in Chapter 3 of this paper.

Definitions of Statistical and Research Terms

1. Spearman Correlation Co-efficient--a measure of association requiring the measurement of variables in an ordinal scale, enabling the objects or individuals under study to be ranked in ordered series and to be compared.
2. CLSI LIBS 100 Circulation Control System--a highly specialized, automated library system which automates the recording, processing, and retrieval of data generated by daily circulation activities.
3. CLSI--the name of the company which manufactures the CLSI Library System, originally known as the Consolidated Library Services, Inc., but since changed to Computer Library Systems, Inc.
4. LIBS 100--a central console which stores data fed into it by the use of a supporting light pen and keyboard display station which can be located at key points

throughout the library.

5. Pre-School Children--children between the ages of three and five years old who have not yet attended kindergarten in either public or private schools and who attend the library pre-school programs.
6. Pre-School Program--refers to a highly structured story-time program for pre-schoolers. The program includes such activities as stories, games, puppets, and movies.
7. Easy books--a category of books specifically designed for pre-schoolers through second graders.
8. Monthly Program Service Report--a report from all branches that is compiled monthly. This report is designed to give statistics on activities and programs.
9. Walk-in--refers to a library in a neighborhood where it is easily accessible to children and within walking distance of their homes.
10. Materials--books, periodicals, art prints, games, etc.--all items circulated by the Clark County Library District.

FOOTNOTES

¹Elizabeth Gross, Children's Services in Public Libraries: Organization and Administration (Chicago: American Library Association, 1963), p. 124.

²Barass, Reitzel and Associates, Inc., A Study of Exemplary Public Library Reading and Reading-Related Programs for Children, Youth and Adults, Vols. I and II, ERIC Document ED 066 197, July, 1972.

³Philip S. Wilder, Jr., Library Usage by Students and Young Adults, Indiana University, ERIC Document ED 066 197, September, 1970.

⁴Anne Billeter, "Research and Evaluation in the Administration of Children's Work in the Public Library," Illinois Libraries, LVII (January, 1975), 10-12.

⁵Lyle Eberhart, "A Closer Look: Gallup Survey of American Adults Assesses the Role of Libraries in America," American Libraries, VII (April, 1976), 206-9.

⁶Faith Hektoen, "Survey of Services to Children in Public Libraries in Connecticut," Connecticut Libraries, XV (June, 1973), 2-5.

⁷Lowell Martin, Baltimore Reaches Out: Library Service to the Disadvantaged, No. 3 in the Deiches Fund Studies of Public Library Service (Baltimore: Enoch Pratt Free Library, 1967).

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¹¹Jeannie Price and Bernice Willis, Evaluation Report for Institute for Public Libraries in Service to Young Children, Learning Institute of North Carolina, ERIC Document ED 088 479, August, 1972.

¹²Beverly Sirota, "The Effect of a Planned Literature Program of Daily Oral Reading by the Teacher on the Voluntary Reading of Fifth Grade Children" (unpublished Doctoral dissertation, New York University, 1971).

¹³Donald Pfau, "Effects of Planned Recreational Reading Programs," Reading Teacher, XXI (October, 1967), 34-9.

¹⁴Ibid., p. 35.

¹⁵Milwaukee Public Schools, Library Services for Elementary Schools in Areas of High Concentration of Pupils from Low-Income Families, Wisconsin Division of Curriculum and Instruction, ERIC Document ED 065 151, 1967.

¹⁶Ruth Cook, "A Dozen Summer Programs Designed to Promote Retention in Young Children," Elementary School Journal, XLII (March, 1952), 412-7.

¹⁷Ibid., p. 417.

¹⁸Gertrude Bailey, "The Use of a Library Resources Program for the Improvement of Language Abilities of Disadvantaged First Grade Pupils in an Urban Community" (unpublished PhD dissertation, Boston College, 1969).

¹⁹Naomi B. Erdmann, "Evaluating a Summer Library Program," Elementary English, XLIII (April, 1966), 400-1.

²⁰Elsie Ziegler, "A Study of the Effects of Creative Dramatics on the Progress in Use of the Library, Reading Interests, Reading Achievement, Self-Concept, Creativity, and Empathy of Fourth and Fifth Grade Children" (unpublished PhD dissertation, 1971).

²¹Herbert Goldhor, "Exploratory Study of the Effect of a Public Library Reading Club," Library Quarterly, XXXVI (January, 1966), 14-24.

²²Ibid., p. 15.

²³Robert Karlin, "Library Book Borrowing Versus Library Book Reading," Reading Teacher, No. 16 (November, 1962), 77-81.

²⁴Edwin B. Parker and William J. Paisley, "Predicting Library Circulation from Community Characteristics," Public Opinion Quarterly, XXIX (Spring, 1965), 39-53.

²⁵Margaret Peil, "Library Use by Low Income Chicago Families," Library Quarterly, XXXIII, No. 4 (1963), 329-33.

²⁶John Lubans and others, A Study with Computer-based Circulation Data of the Non-use and Use of a Large Academic Library, Colorado University, Boulder, Colorado, ERIC Document ED 082 756, 1973.

²⁷Ibid., p. 4.

²⁸Floyd Cammack and Donald Mann, "Institutional Implications of an Automated Circulation Study," College and Research Libraries, XXVII (March, 1967), 129-32.

²⁹Marion Gallivan, "Research on Children's Services in Libraries," Top of the News, XXX (April, 1974), 275-93.

³⁰Ibid., p. 277.

³¹Ibid., p. 279.

³²American Library Association, Library Statistics; Handbook of Concepts, Definitions and Terminology (Chicago: American Library Association, 1966).

³³Peter Hiatt and Virginia Mathews, eds., Response to Change, Indiana Library Studies Report 1, Bloomington, Indiana, ERIC Document ED 044 131, 1970, p. 10.

³⁴Paul Wasserman, The Librarian and the Machine (Detroit: Gale Research, 1965), p. 27.

³⁵Richard Palmer, Case Studies in Library Computer Systems (New York: Bowker, 1973), p. 3.

³⁶Jesse H. Shera, Knowing Books and Men; Knowing Computers, Too (Littleton, Colorado: Libraries Unlimited, 1973), p. 19.

Chapter 3

RESULTS AND INTERPRETATION

Correlation of Data

The central focus of this study was to test the hypothesis as stated in Chapter 1, as well as to establish clearly that statistical models can be used effectively in library research.

The data employed in this study lent themselves quite nicely to correlation techniques, since they broke down into two basic variables. Naturally, the treatment of the data with other forms of statistics would have been desirable and would have established a greater degree of sophistication, but time limitations proved prohibitive.

Correlation, as the word itself suggests, is a measure of the interaction of two or more variables upon one another. These variables are events or conditions which tend to change. The degree to which they change, that is agree or disagree with one another or appear to act upon one another, is the basis and rationale for almost all correlational research.

Furthermore, a correlation study rarely indicates which variables are most influenced or even that the influences are direct. But, correlation studies are

reliable if specific verification is needed for specific data. In any case, a correlation procedure never infers causality. In other words, Variable "A" cannot cause Variable "B." The two variables can measure only a relationship to each other.

One statistical technique commonly used in correlation research is the Pearson Product Moment Correlation which uses as its identification the small-case Greek letter "r." This technique works well with large samples of data where there is little likelihood of tied ranks.¹

Since the data in the present study were easily divided into eight monthly segments, a small sample, the Spearman Rank Order Correlation was chosen. This is an effective statistic when working with small numbers of pairs and the possibility of tied ranks.

In the present study, tied ranks in fact did occur, but the correction factors incorporated in the Spearman formula took this into consideration. The Spearman Correlation Statistic is sometimes designated by the Greek term ρ , but in this research it will be represented by " r_s ."²

Another reason for using the Spearman technique was that it allows for the measurement of variables in an ordinal scale. In other words, all measures of correlation are "measures of association which require that both variables be measured in an ordinal scale so

that the objects or subjects under study may be ranked in two ordered series."³

To test the hypothesis, two independent variables were selected which, when compared, may give a correlation that will in turn, through interpretation, disclose information concerning the effectiveness of pre-school programming. The first variable was the change in attendance, i.e. the increase or decrease in the number of pre-school programs held. This is referred to in the research as Variable P.S. The other variable was the change in the flow of the Easy book circulation. This is referred to as Variable E.B. in this research.

Cursory examination of the raw data (see Tables I and II) and on-site observation lead to the obvious conclusion that children's programs did have a sizeable effect upon the increment of Easy book circulation, but this is not a precise enough technique and does not indicate the degree of such an influence or increment.

It should be noted that these two variables are composed of tallies based upon individuals. These variables are not to be thought of as separate groups of individuals in any other sense, since it is not essential in a preliminary study of this nature to probe further into the demographic or psychological makeup of the individual children represented by Variable P.S., or parents acting for their children as they select and check out Easy books.

Table I
Eight Months' Circulation Study, Flamingo
Headquarters Library--Raw Data*

Month	Variable #1 P.S. Total number of monthly pre-school programs offered	Variable #2 E.B. Total number of Easy books circulated
July	31	5,974
August	20	4,951
September	15	4,511
October	25	5,087
November	9	4,826
December	17	3,157
January	16	4,470
February	20	5,573

$r_s = .716$; significance level-- $.05$

*Includes results of Spearman Rank Order Correlation study.

Table II
 Eight Months' Circulation Study, Decatur
 Branch Library--Raw Data*

Month	Variable #1 P.S. Total number of monthly pre-school programs offered	Variable #2 E.B. Total number of Easy books circulated
July	21	2,841
August	17	2,936
September	7	2,448
October	18	2,951
November	10	2,530
December	12	1,945
January	12	2,931
February	12	2,768

$r_s = .675$; significance level-- $.05$

*Includes results of Spearman Rank Order Correlation study.

Still, some of this kind of background material will be evident when the results of the survey are reviewed.

Upon analysis, it was found that the correlation coefficient between Variable P.S. and Variable E.B. at the Flamingo Library was $r_s = .716$. This conforms to a significance level of .05 (see Table I). The correlation coefficient for the same data based upon the Decatur branch was $r_s = .675$, which was also significant at the .05 level of confidence (see Table II). These two outcomes show clearly that a significant relationship does exist between the number of pre-school programs and the number of Easy books circulated within an eight-month period.

Although only two variables are stressed in this research, it should be pointed out that two other correlation studies were made on various aspects of these data with strikingly similar results.

Survey Data

In 1972, several months after the Flamingo Library building opened, the first pre-school story time was conducted. The program ran once a week on Thursday mornings and began with about 12 children. A year later, the sessions had grown to 65 pre-schoolers at a time. Several sessions recorded over 90 youngsters which necessitated the addition of more sessions. Presently, five sessions are scheduled during the school year with an average attendance

of 30 per session. During the summer, when the demand is greater and time allows a more flexible schedule, as many as eight sessions are held.

Because of the increasing demand by parents to enroll their children in the pre-school program, it was necessary to establish a waiting list. This enabled the Young People's Department at the Flamingo Library to place 300 children on a rotating eight-week session basis. In effect, this allowed a child to attend one session, then wait for eight weeks before returning for another session.

Because so many of these pre-schoolers have been through several of the rotating sessions, it was thought that the parents of these children would be an interesting group to survey, since most of them were already familiar with the library and its programs and had been through at least one program cycle where they were not attending pre-school story times. One purpose of the survey was to determine whether parents of pre-schoolers checked out more books when their children were there for story hours than when the children were not enrolled. Another reason for the survey was to determine whether these parents visited the library as often when their children were not enrolled in the pre-school program.

The survey represented 75 parents out of a possible 104. Of these respondents, 92 percent stated they come to the library once a week or more when their children were

enrolled in the pre-school program (see Table III). This figure dropped to 29 percent during the time when their children were not enrolled in the pre-school sessions.

When queried about the number of books they checked out when their child was not enrolled in one of the sessions, 72 percent of the respondents said they checked out fewer books. Of this number, 12 percent indicated that they checked out the same number of books. The word "same" as one of the choices, however, was unfortunately left off the survey. The 12 percent answering "same" represent those who wrote the choice in themselves. A five percent figure was attributed to "no answer." This percentage might have been different had the word "same" not been omitted as a choice.

Another interesting disclosure showed that although the majority of patrons came from within a three-mile radius, the rest were spread throughout the city, including one from the neighboring community of Henderson (see Appendix E). Fourteen patrons came from areas where they are much closer to another library than to the Flamingo Library. An interesting economic diversity can be noted here; 43 percent of the families surveyed were in the under-\$10,000 annual family income bracket, while 47 percent were in the over-\$20,000 annual family income bracket.

The survey also indicated that when all of these parents are using the library they are checking out a wide

Table III
RESPONSES TO SURVEY EXPRESSED IN PERCENTAGES
 LIBRARY PRE-SCHOOL PROGRAMMING USER SURVEY
 YOUNG PEOPLE'S LIBRARY
 CLARK COUNTY LIBRARY DISTRICT

So that we may continue to improve programming services to our patrons, we would like to solicit your assistance in filling out this survey. All information is strictly confidential and the survey does not require you to identify yourself.

Thank you for your help.

1. What is your zip code? (see Appendix E)
2. What is your age? Under 25 4% 25-35 83% Over 35 13%
3. Are you employed? No 77% Yes 23% (full 24% part 76%)
4. What is your total annual family income? Under 10,000 43%
10,000-20,000 10% Over 20,000 47%
5. What is the highest grade in school you have completed? Jr. High School 1.3% High School 33.3% College 65.3% (Degree 55% Major)
6. Do you have a public library card? No Yes 100%
7. What kind of materials do you check out of the library? Children's Easy books 87% Children's Fiction 41% Children's Nonfiction 36%
Adult Fiction 61% Adult Nonfiction 68% Magazines 23% Paperbacks 19%
Art Prints 9% Children's records 31% Adult records 15% Games 12%
8. How old is your child or children attending our pre-school program?
 (3 yrs.--28%; 4 yrs.--32%; 5 yrs.--23%)
9. How long has your child been attending the Library Pre-school Story Hour? Less than 6 months 43% 6 months-one year 23% more than one year 34%
10. Does your pre-school child have a library card? No 74% Yes 26%
11. How often do you come to the library when your child is enrolled in our pre-school sessions? Less than once a week 8% Once a week 78% More than once a week 4%
12. When your child is not enrolled in our pre-school session, how often do you come to the library? Less than once a week 71% Once a week 25% More than once a week 14%
13. Do you check out fewer 76% or more 11% books when your child is not enrolled in one of our Pre-school sessions?
SAME--added by respondents--13%
14. Are you satisfied with our program? No Yes 100%
15. If you have any suggestions for improvement, please indicate them on the bottom of this page.

variety of materials other than Easy books for their pre-school children. Of this group, 61 percent are checking out adult fiction, while 68 percent are checking out adult non-fiction.

Findings of this survey seem to indicate that within the parameters of this study, programming for pre-school children does bring the families to the library more often than when the children are not attending the pre-school programs. The survey also indicates that parents are checking out a wide variety of materials when their children are enrolled in pre-school sessions. This could have further implications affecting the circulation of books and materials in categories other than Easy books.

Daily Circulation Cycle-- Four-week Study

Due to the ease and accessibility of accurate and valid statistics via the computer and to reinforce the other research methods used in this study, a program of daily circulation of Easy books was recorded over a four-week period. These data were gathered at both the Flamingo Headquarters library and the Decatur branch library (see Appendix D).

The Flamingo library, as stated earlier, is the headquarters library of the Clark County District and is in an area zoned for commercial establishments. No residential areas exist in the immediate vicinity, but a number of

apartment units have been developed nearby and more are under construction. It is not, as mentioned earlier, a walk-in library. Although some children do ride their bicycles to the library, most of them are driven there by their parents. The Decatur branch, on the other hand, is a walk-in library and more accessible to young people who can walk or ride their bikes. Both libraries were polled to lend randomization to the research and to compare trends of accessibility.

The statistical evaluation of the flow of Easy book circulation indicates that Saturdays remain the most active days at both libraries. This is predictable because Saturdays are traditionally busy days for the Clark County Library System during the school year. Also, both libraries have programs for children every Saturday during the school year, including story hours, movies, and special programs. However, this pattern does change slightly during the summer months, when programming can be spread throughout the week.

At the Flamingo library, Fridays are pre-school program days. Four sessions are run every Friday. Friday was selected as the pre-school day for a number of reasons. Traditionally, Friday has been the slowest day in the Flamingo library. In other words, circulation is lower on Friday than on any other day. Many libraries are slow in circulation of Fridays due to a number of sociological

factors acting upon library attendance. For instance, banking is often done late on Friday; it is frequently payday; people often head home to look towards leisure weekend activities; and young people are not pressed by homework assignments as they are during the week. Thus, any increase in attendance and circulation noted on these days would be assumed to be more significant. Any factors that could turn the trend upward on Friday would have to have more sociological pull than the external and domestic factors.

Figures 1 and 2 show the results of the study in graphic form. The date in the graph which reflects the Flamingo library shows the circulation of Easy books is quite high on Fridays (see Figure 1). In fact, Fridays have become the second most active day in the library week, which is an obvious reversal of the traditional Friday circulation flow. It will be necessary to explore the sociological implications of this reversal more fully, but such an exploration exceeds the scope of the present study.

The tabular data also take a slightly different plot for the Decatur branch when considered separately (see Figure 2), even though both libraries conformed to the significant trend in the data. Some differences do exist, however, in the separated data between the two libraries. This differential can be explained by the fact

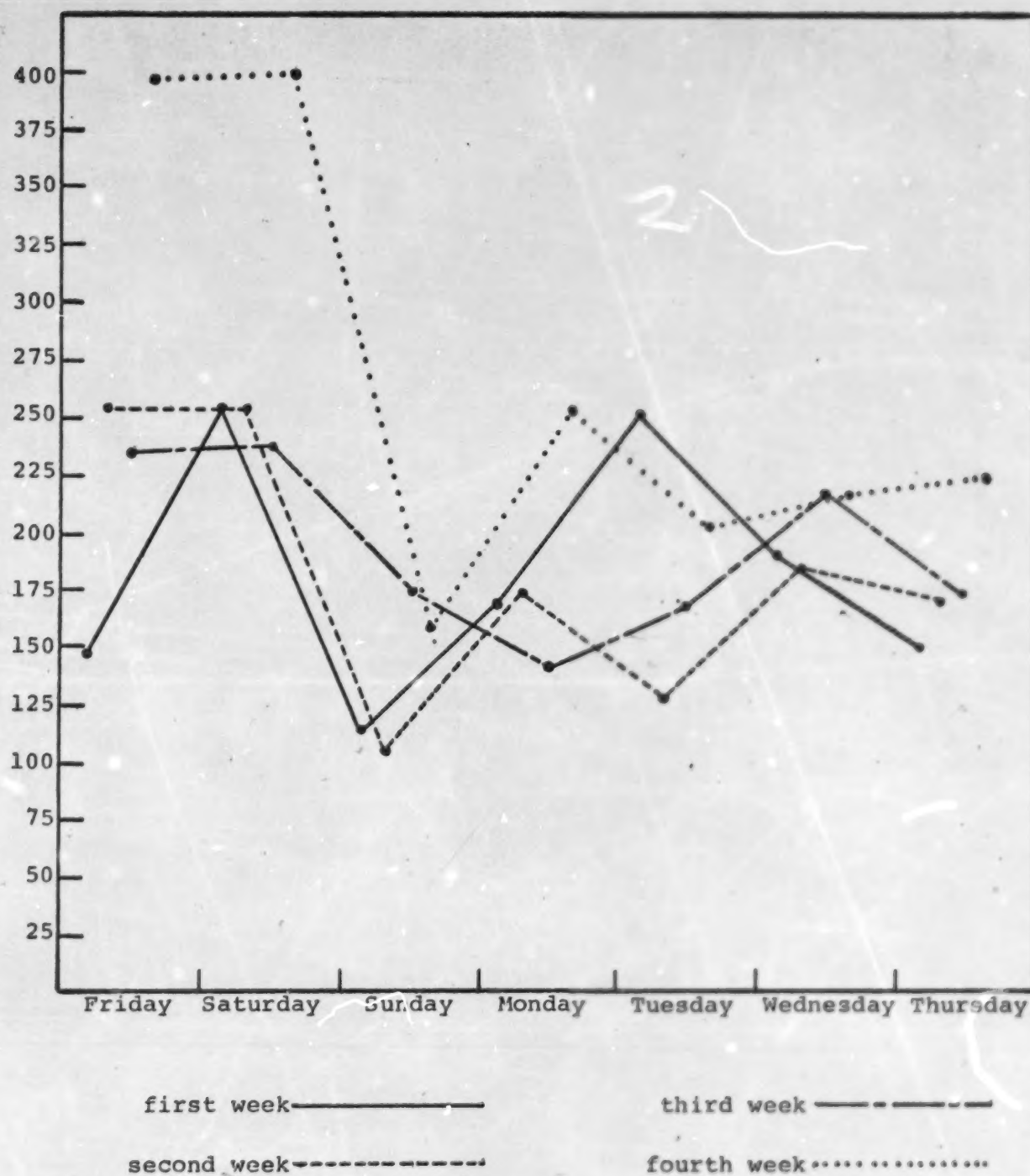


Figure 1

Daily Circulation of Easy Books Over a Four-week Period
(Flamingo Library Headquarters)

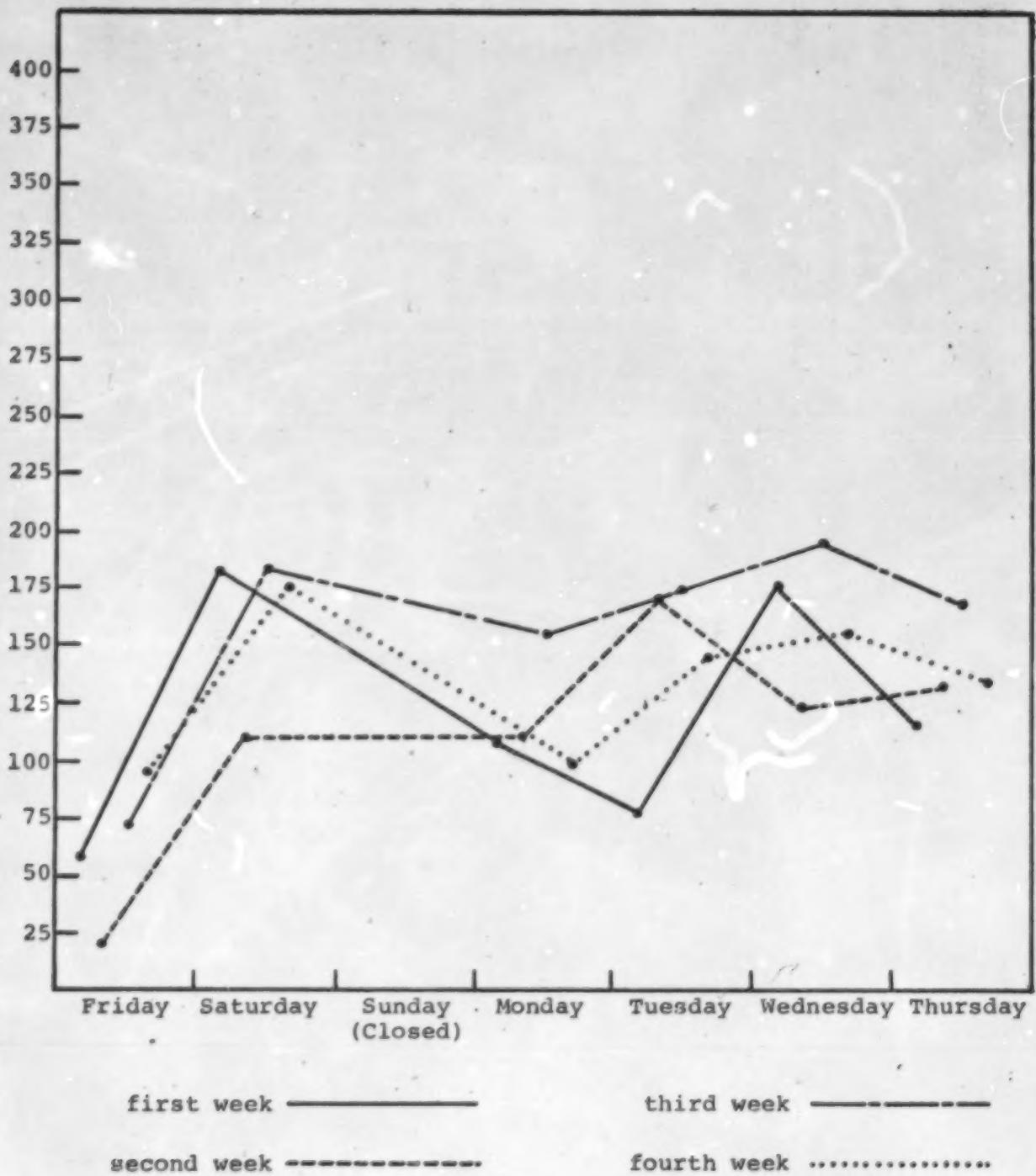


Figure 2

Daily Circulation of Easy Books Over a Four-week Period
(Decatur Library Branch)

that the Decatur branch was conducting three pre-school sessions, one each on Monday, Wednesday, and Thursday. The fluctuation of Easy book circulation during the week is not as extreme for this library as is the fluctuation for the Flamingo library.

The circulation flow at Decatur is more evenly distributed during the week than is the Flamingo library. Yet, even with the lack of a Tuesday and Friday program, the trend toward the effectiveness of children's programming is upheld. This is especially evident when examining the Friday Easy circulation at Decatur which for all the four weeks' research was the lowest!

In addition to its traditional slow characteristics, Friday is a day when no pre-school classes are scheduled at the Decatur library. It might also be assumed that the more even flow of Easy books at Decatur could be traceable to its walk-in neighborhood characteristics, as compared to the problem of greater inaccessibility at the Flamingo library.

In a further attempt to control extraneous variables in this study, advantage was taken of the two-week recess between pre-school sessions. This was held at the Flamingo library only, but gives a good null control factor and a baseline upon which to compare the effectiveness of children's programs as stated in this study. Daily Easy book circulation statistics were gathered on these two Fridays

when no pre-school classes were conducted. By averaging the Friday Easy book circulation against the entire four-week period plotted in this research it was found that a mean of 295 Easy books were circulated on Fridays when pre-school sessions were being held. The average total daily circulation for these same Fridays was 1,691.

By comparison and as a control, it should be noted that for the two weeks under investigation wherein the pre-school was not in session, the average Friday Easy book circulation was 87 books! The average total daily circulation was 1,133. These figures show that on the pre-school Fridays the library checked out a great many more books than on the Fridays when no pre-school sessions were held. This result once again confirms the previous data presented in this study.

Interpretation and Implications

Obviously, the plotting of much more daily and monthly information should be done for a longer period of time before these results can be considered reliable. But trends do exist in the data that cannot be ignored. For instance, further research would illuminate differences during the summer months when a much more intensive reading program is conducted with a larger number of children participating at different times. Other vacations and holidays would affect the cycle as would year-round public

school schedules. The necessity for greater and more in-depth research in this area is clear. However, in a short time, these annual cycles could be corrected in the treatment of data and the cyclic trends in many library functions could be plotted with accurate results.

It is important to note that the Friday downtrend was, in fact, reversed by the impact of the children's programs offered at the Flamingo library. The data presented show the statistical trends. It would be unfair not to further explain the actual intensity and structure of the children's programs in order to explain their effect upon the reversal of the statistical trend. A major variable could be the impact these programs have upon the children who attend them. The child's enthusiasm for the program is extremely important in influencing both the parent's desire for the child to be taken to the library, and to insure the continuity of the program over a long period of time. In this particular on-going program schedule, the children look forward to the story time experience with the librarians.

Another factor may be analyzed if one considers the parental involvement in these programs. Parents who bring their children to the pre-school sessions begin to check out a wide range of both children's and adult books, as well as other materials available in the library.

In the final analysis, the impact of the pre-school

program depends upon the content of the on-going sessions. The important factor is that the children want to come back to the library; that is dependent upon the library staff members who conduct the programs. The personality and intensity of the staff members involved have not been considered as variables in this research, but in future studies the personality, the expertise, and the commitment of staff members would be an important area of control and investigation.

It can be seen from the information gained through the survey, the check on circulation of Easy books, and the data exposed to the Spearman Correlation technique that these pre-school programs were effective in terms of both enhanced circulation and greater use of the public library.

Suggestions for Future Research

As was noted at the beginning of this paper, very little research has been done in the field of public library programming services to children. Through analysis of the present study, it appears that this kind of research should be an important consideration for those librarians concerned with the future of children's services. Budget cuts are a growing reality and librarians increasingly need to justify their programs with these kinds of hard data.

This study, however limited in scope, offers

possibilities for further research. While it should be noted that the list is in no way exhaustive, some possibilities for future research include:

1. A long-range computer circulation study of the patterns of books checked out by children--the effect that vacations, year-round schools, location, etc. will have upon circulation patterns.
2. The effectiveness of children's programs--Are some more effective than others? Which ones seem to attract more children? Do patrons always check out more books when they attend library programs?
3. Do elementary and junior high school students rely on programming in the public library? Does the additional programming for different age groups increase the circulation of books in other appropriate categories?
4. Extensive use of computer statistics to aid librarians in different aspects of service to the public and to aid in the selection of books and materials--What effect will this have on budgets? What effect will it have upon choice of materials to buy?

FOOTNOTES

¹Benton J. Underwood and others, Elementary Statistics (New York: Appleton-Century-Crofts, Inc., 1954), p. 141.

²Sidney Siegel, Non Parametric Statistics for the Behavioral Sciences (New York: McGraw-Hill, 1956), p. 202.

³Ibid.

Chapter 4

SUMMARY AND DEFENSE OF HYPOTHESIS

This study has examined the effect of children's programming upon the circulation of children's books. It has attempted to analyze the flow of materials and how this flow of materials relates to the programs which the library offers to children. It is also an attempt to apply modern electronic and statistical methods to the research.

The hypothesis that children's programming in the public library would increase the number of children's books in circulation and that the more programs the library offers, the more children will visit the library was upheld by a very strong statistical result.

In summary, the hypothesis was tested by using a combination of experimental design methods. A computer program using the Spearman Rank Correlation Coefficient was run on data gathered over an eight-month period, as well as a daily circulation program. The data for these two test designs were gathered by using the CLSI LIBS 100 Circulation Data Control System in combination with monthly program statistics.

The findings of the study indicated a significant correlation between pre-school programming and the circula-

tion of Easy books. The findings were found to be significant at the .05 level of significance at both the Flamingo and the Decatur libraries.

A user survey was also conducted with the parents of pre-schoolers who were attending rotating story sessions to gauge the effects of the parents' visits and the number of books they checked out when their children were enrolled in the library program as opposed to when they were not enrolled. This user survey indicated that parents come to the library more frequently when their children are registered in a pre-school program than when they are not, and that the parents check out more books and library materials when their children are attending the programs.

This study has indicated a glaring lack of statistical research into the effects of children's programming on public libraries. This paucity of available research suggests a need for much greater study and the improvement of data-handling techniques.

This study also seems to indicate that children's programs are effective and are an important part of overall library services in the public library. In this age of cost effectiveness which necessitates the justification of every library expenditure, the study would indicate that programs do bring in patrons. It also indicates that programming does affect the circulation of books and materials in the public library. This study also has shown

that statistical and computer technology can be utilized to glean accurate data and verification beyond simple intuitive observations.

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APPENDIXES

DEC Decatur Public Library*

CIRCULATION	CIRCULATION CLASSES	CATEGORY
49	Undefined	(0)
84	Adult Fiction	(4)
62	Mysteries	(2)
2	Westerns	(3)
42	Science fiction	(4)
20	Recordings	(5)
4	Art Prints	(7)
20	Periodicals	(8)
59	Paperbacks	(44)
34	Juvenile Fiction	(47)
75	Juvenile non-fiction	(48)
498	Easy books	(49)
4	Juvenile records	(20)
6	A	(28)
44	B-BD	(29)
3	D	(34)
3	E4-76	(45)
4	F4-835	(50)
3	G-GF	(54)
44	H	(57)
2	J	(64)
4	K	(62)
4	L-LA	(63)
8	N	(68)
42	P	(69)
4	Q	(84)
40	R-RS	(90)
4	S-SK	(93)
28	T-TT	(94)
4	U-V	(96)

696 *** Sum of items circulated ***

*Daily printout.

APPENDIX A

CCL Clark County Library*

CIRCULATION	CIRCULATION CLASSES	CATEGORY
73	Undefined	(0)
474	Adult Fiction	(4)
82	Mysteries	(2)
3	Westerns	(3)
44	Science fiction	(4)
85	Recordings	(5)
83	Periodicals	(8)
4	Reference	(42)
2	Municipal Documents	(43)
482	Paperbacks	(44)
38	Juvenile Fiction	(47)
83	Juvenile non-fiction	(48)
457	Easy books	(49)
5	Juvenile records	(20)
4	Juvenile periodicals	(23)
3	Juvenile paperbacks	(24)
5	A	(28)
43	B-BD	(29)
4	C-CT	(33)
36	D	(34)
25	E4-76	(45)
29	F4-835	(50)
23	G-GF	(54)
80	H	(57)
3	J	(64)
7	K	(62)
43	L-LA	(63)
7	M	(67)
40	N	(68)
83	P	(69)
41	Q	(84)
38	R-RS	(90)
30	S-SK	(93)
48	T-TT	(94)
2	U-V	(96)
3	Z	(97)

4,546 *** Sum of items circulated ***

*Flamingo Headquarters Library; daily printout.

APPENDIX B

APPENDIX C

MONTHLY SERVICE REPORT

Young People's Services Monthly Report	Flamingo		Dactur		Las Vegas		West Las Vegas		Extension		Total	
	Prog	Chil	Prog	Chil	Prog	Chil	Prog	Chil	Prog	Chil	Prog	Chil
Story/Film/ Craft Programs												
Pre-school												
Primary												
Middle Grades												
Visitations (from)												
Public												
Private												
Visitations (to)												
Public												
Private												
Special Programs												
Totals												

Nancy R. Cummings
Young People's Co-ordinator

APPENDIX D

DAILY CIRCULATION OF EASY BOOKS--RAW DATA

Flamingo Headquarters Library

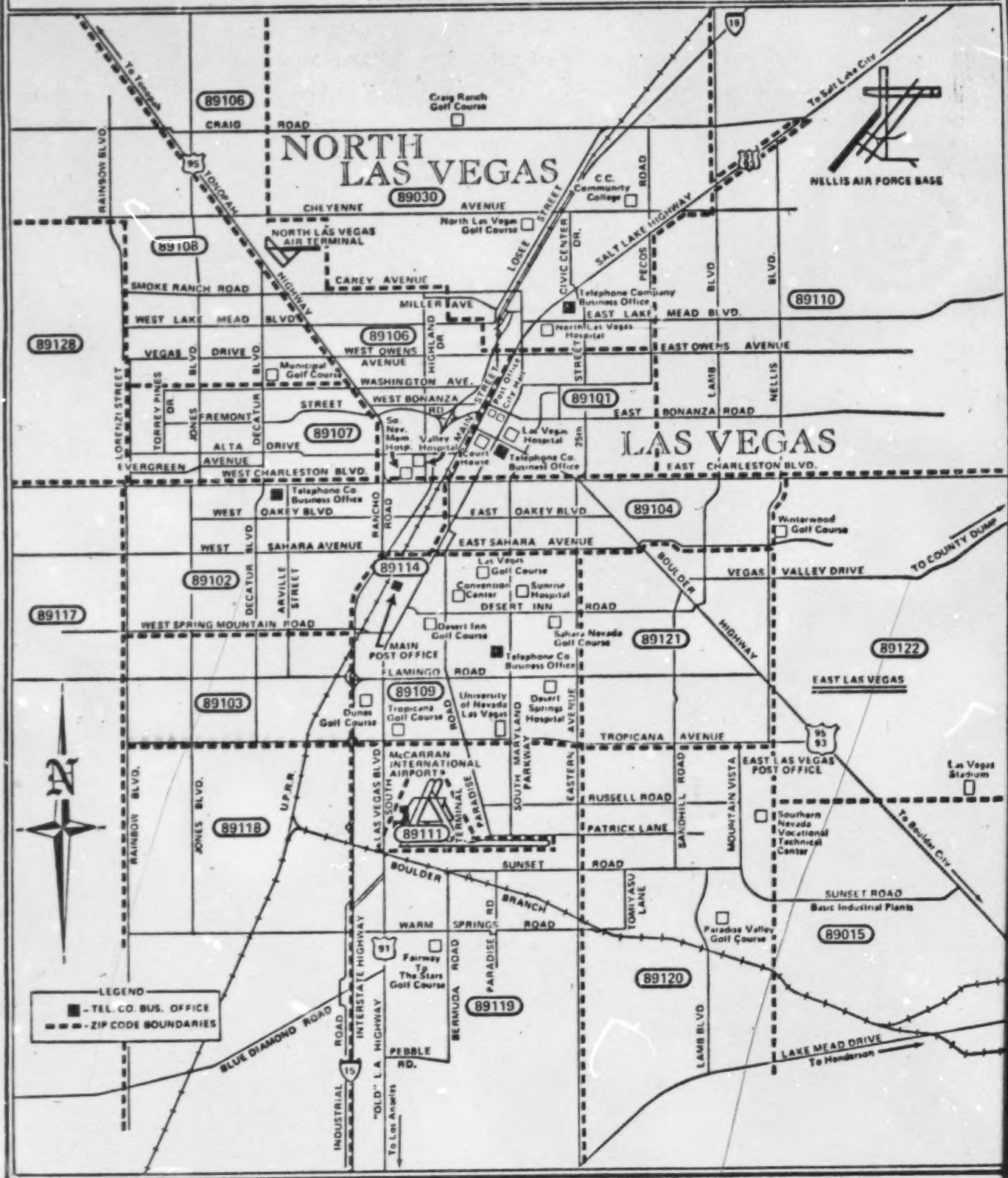
<u>Week 1</u>	<u>Week 2</u>	<u>Week 3</u>	<u>Week 4</u>
Fri., Feb. 6 - 149	Fri., Feb. 13 - 253	Fri., Feb. 20 - 234	Fri., Feb. 27 - 398
Sat., Feb. 7 - 255	Sat., Feb. 14 - 253	Sat., Feb. 21 - 237	Sat., Feb. 28 - 399
Sun., Feb. 8 - 114	Sun., Feb. 15 - 107	Sun., Feb. 22 - 175	Sun., Feb. 29 - 159
Mon., Feb. 9 - 167	Mon., Feb. 16 - 175	Mon., Feb. 23 - 143	Mon., Mar. 1 - 255
Tue., Feb. 10 - 254	Tue., Feb. 17 - 126	Tue., Feb. 24 - 169	Tue., Mar. 2 - 201
Wed., Feb. 11 - 191	Wed., Feb. 18 - 185	Wed., Feb. 25 - 220	Wed., Mar. 3 - 217
Thu., Feb. 12 - 150	Thu., Feb. 19 - 172	Thu., Feb. 26 - 174	Thu., Mar. 4 - 225

Decatur Branch Library

<u>Week 1</u>	<u>Week 2</u>	<u>Week 3</u>	<u>Week 4</u>
Fri., Feb. 6 - 61	Fri., Feb. 13 - 21	Fri., Feb. 20 - 72	Fri., Feb. 27 - 92
Sat., Feb. 7 - 184	Sat., Feb. 14 - 109	Sat., Feb. 21 - 183	Sat., Feb. 28 - 174
Sun., Feb. 8 - ---	Sun., Feb. 15 - ---	Sun., Feb. 22 - ---	Sun., Feb. 29 - ---
Mon., Feb. 9 - 109	Mon., Feb. 16 - 110	Mon., Feb. 23 - 152	Mon., Mar. 1 - 96
Tue., Feb. 10 - 77	Tue., Feb. 17 - 170	Tue., Feb. 24 - 173	Tue., Mar. 2 - 142
Wed., Feb. 11 - 175	Wed., Feb. 18 - 122	Wed., Feb. 25 - 192	Wed., Mar. 3 - 154
Thu., Feb. 12 - 115	Thu., Feb. 19 - 130	Thu., Feb. 26 - 166	Thu., Mar. 4 - 133

LAS VEGAS, NORTH LAS VEGAS & VICINITY

PRINCIPAL STREETS AND HIGHWAYS



DEMOGRAPHIC MAP SHOWING LOCATIONS OF SURVEY RESIDENTS